application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Claims:

Please amend the claims as follows:

Please cancel claims 1-49, without prejudice to or disclaimer of the subject matter contained therein. Applicants reserve the right to prosecute the subject matter of these claims in one or more continuing applications.

Please enter the following new claims 50-58:

50. (New) A composition comprising:

(a) a non-naturally occurring molecular scaffold comprising:

(i) a core particle, wherein said core particle is a virus-like particle; and

(ii) an organizer comprising at least one first attachment site,

wherein said organizer is a polypeptide or residue thereof and is connected to said core particle by at least one covalent bond; and

(b) an antigen or antigenic determinant with at least one second attachment site, said second attachment site being selected from the group consisting of:

(i) an attachment site not naturally occurring with said antigen or antigenic determinant; and

(ii) an attachment site naturally occurring with said antigen or antigenic determinant,

wherein said second attachment site is a polypeptide or residue thereof and is bound by at least one non-peptide bond to said first attachment site; and

wherein said antigen or antigenic determinant and said scaffold interact through said association to form an ordered and repetitive antigen array.

51. (New) The composition of claim 50, wherein said core particle is a hepatitis B virus capsid protein.

52. (New) The composition of claim 51, wherein said first attachment site and said second attachment site each comprise an interacting leucine zipper polypeptide.

53. (New) The composition of claim 52, wherein said first attachment site is the JUN polypeptide and said second attachment site is the FOS polypeptide.

54. (New) The composition of claim 50, wherein said core particle is selected from the group consisting of:

(a) recombinant proteins of Rotavirus;

(b) recombinant proteins of Norwalk virus;

(c) recombinant proteins of Alphavirus;

(d) recombinant proteins of Foot and Mouth Disease virus;

(e) recombinant proteins of Retrovirus;

(f) recombinant proteins of Hepatitis B virus;

(g) recombinant proteins of Tobacco mosaic virus;

(h) recombinant proteins of Flock House Virus; and

(i) recombinant proteins of human Papillomavirus.

55. The composition of claim 54, wherein the first attachment site and the second attachment site each comprise an interacting leucine zipper polypeptide.

56. The composition of claim 55, wherein said antigen or antigenic determinant is selected from the group consisting of:

(a) proteins suited to induce an immune response against cancer cells;

(b) proteins suited to induce an immune response against infectious diseases;

(c) proteins suited to induce an immune response against allergens; and

(d) proteins suited to induce an immune response in farm animals.

57. A vaccine composition comprising:

(a) a non-naturally occurring molecular scaffold comprising:

(i) a core particle, wherein said core particle is a virus-like particle; and

(ii) an organizer comprising at least one first attachment site,

wherein said organizer is a polypeptide or residue thereof and is connected to said core particle by at least one covalent bond; and

(b) an antigen or antigenic determinant with at least one second attachment site, said second attachment site being selected from the group consisting of:

(i) an attachment site not naturally occurring with said antigen or antigenic determinant; and

(ii) an attachment site naturally occurring with said antigen or antigenic determinant,

wherein said second attachment site is a polypeptide or residue thereof and is bound by at least one non-peptide bond to said first attachment site; and

wherein said antigen or antigenic determinant and said scaffold interact through said association to form an ordered and repetitive antigen array.

58. (New) The vaccine composition of claim 57, wherein said core particle comprises a Hepatitis B virus-like particle.